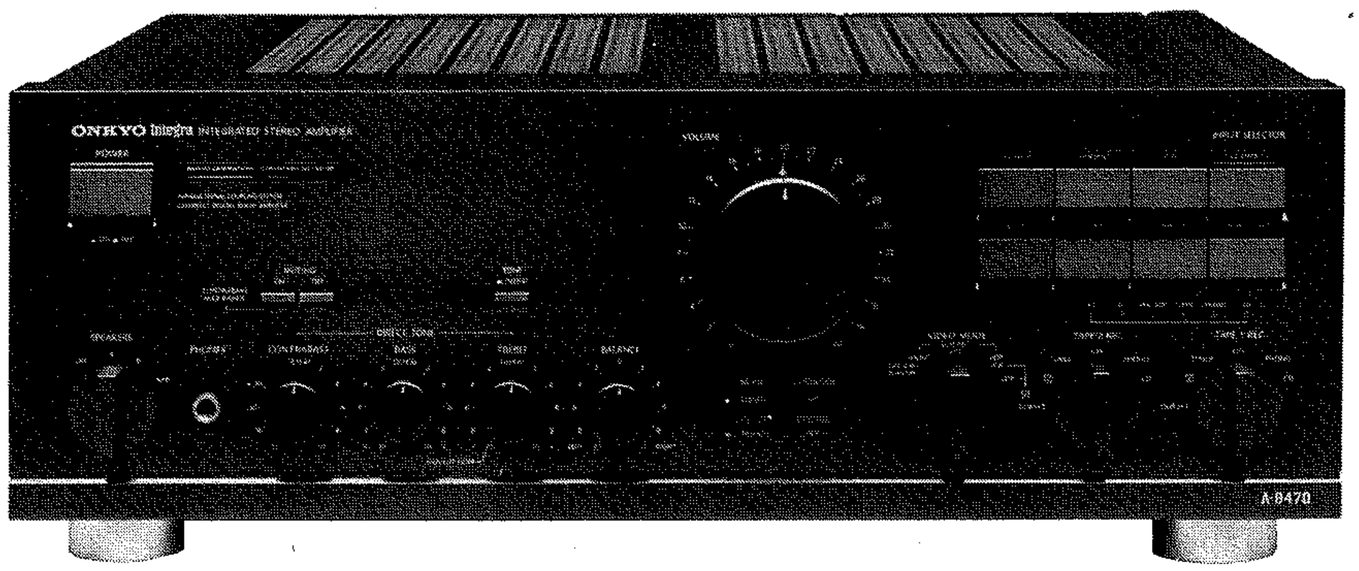
A-8470

SERIAL No. 3271

ONKYO® SERVICE MANUAL

Integrated Stereo Amplifier
MODEL A-8470



Silver and Black models

UG	220V AC, 50Hz

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ ON THE SCHEMATIC DIAGRAM AND IN THE PARTS LIST ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE THESE COMPONENTS WITH ONKYO PARTS WHOSE PARTS NUMBERS APPEAR AS SHOWN IN THIS MANUAL.

MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

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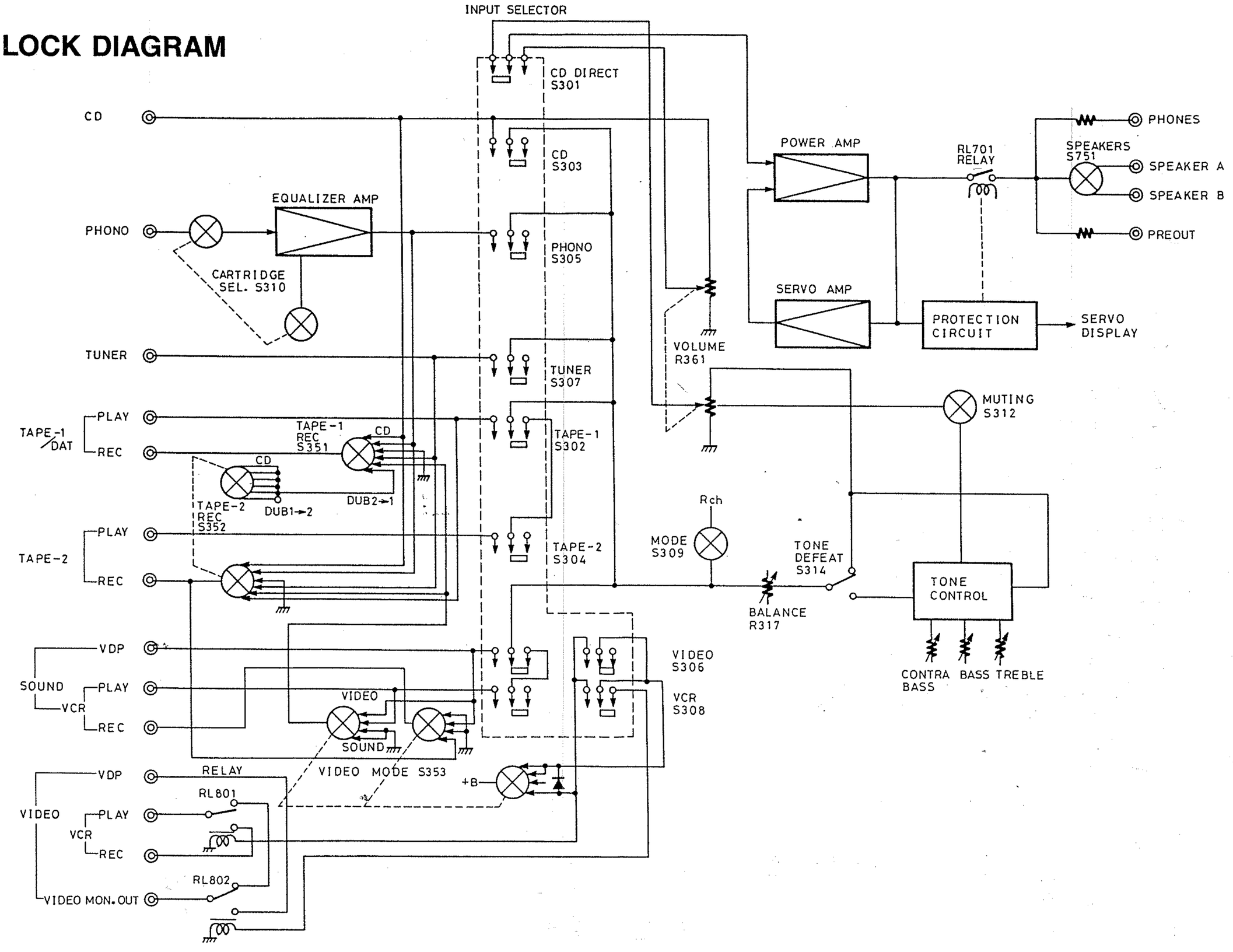
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ONKYO
AUDIO COMPONENTS

SPECIFICATIONS

Continuous Power Output:	2 x 150 watts at 4 ohms, 1 kHz (DIN) 2 x 115 watts at 8 ohms, 1 kHz (DIN) 100 watts per channel, min. RMS, at 8 ohms, both channels driven from 20 Hz to 20 kHz, with no more than 0.008% Total harmonic distortion.	
Dynamic Power:	2 x 303 watts at 2 ohms, 2 x 235 watts at 4 ohms	
Total Harmonic Distortion	0.008% at rated power 0.008% at 1 watt output	
Intermodulation Distortion:	0.005% at rated power	
Damping Factor:	50 at 8 ohms	
Input Sensitivity/ Impedance	Phono (MM):	2.5 mV/50 kohms
	Phono (MC):	160 µV/220 ohms
	CD, DIRECT:	150 mV/50 kohms
	TUNER:	150 mV/50 kohms
	Tape Play:	150 mV/50 kohms
	VCR Play:	150 mV/50 kohms
	VDP Play:	150 mV/50 kohms
Output Level/Impedance:	Tape Rec:	150 mV/1.5 kohms (Phono)
	Pre Out:	1 V/600 ohms
Phono Overload:	Phono (MM):	200 mV RMS. at 1 kHz, 0.012% THD.
Tone Control (Vol −20 dB):	CONTRABASS:	+10/+20 dB (Muting: OFF/ON) at 20 Hz
	BASS:	±10 dB at 70 Hz
	TREBLE:	±8 dB at 20 kHz
High Cut:	6 kHz (6 dB/Octave) (TREBLE min.)	
Frequency Response:	CD, Tuner:	2 Hz−50 kHz (+0, −1 dB)
RIAA Deviation:	Phono (MM):	±0.3 dB, 20 Hz −20 kHz
Signal to Noise Ratio (IHF-A):	Phono (MM):	94 dB (5 mV input)
	Phono (MC):	75 dB (0.5 mV input)
	CD DIRECT:	107 dB
Muting (Vol −20 dB):	−15 dB	
Power Supply:	European models:	AC220V, 50 Hz
Dimensions (W x H x D):	435 x 157 x 396 mm 17-1/8" x 6-3/16" x 15-9/16"	
Weight:	13.2 kg, 29.1 lbs.	

BLOCK DIAGRAM



ADJUSTMENT PROCEDURES

1. **Preparations**
   1) Leave the machine in a normal condition parallel to the work bench, maintaining a clearance of 15mm from the bottom for air circulation.
   2) Set the level to minimum with no load and no signal.
   3) When making the adjustment, there must be no breeze blowing from the outside.

2. **Adjustment of idling current**
   1) Turn ON the power switch, and leave the unit as is for about 5 minutes.
   2) Adjust the semi-fixed resistor R531 (R532) so that the voltage between the terminals V_{CT} and I_{ID} of the printed circuit board NAAF-2969 is 7.5mV.

3. **Operating check of protection circuit**
   1) When the power switch is turned ON.
   - After about 6 second, relay RL701 of the NAAF-2969 printed circuit board go ON.
   - Operation indicator lights.
   2) When the power is turned OFF.
   - Immediately a relay go OFF.
   3) With no load, when ±200mV DC is CD input, the speaker relay go OFF.

Caution: During this test, there should be absolutely no load connected and the load terminals must not be shorted.

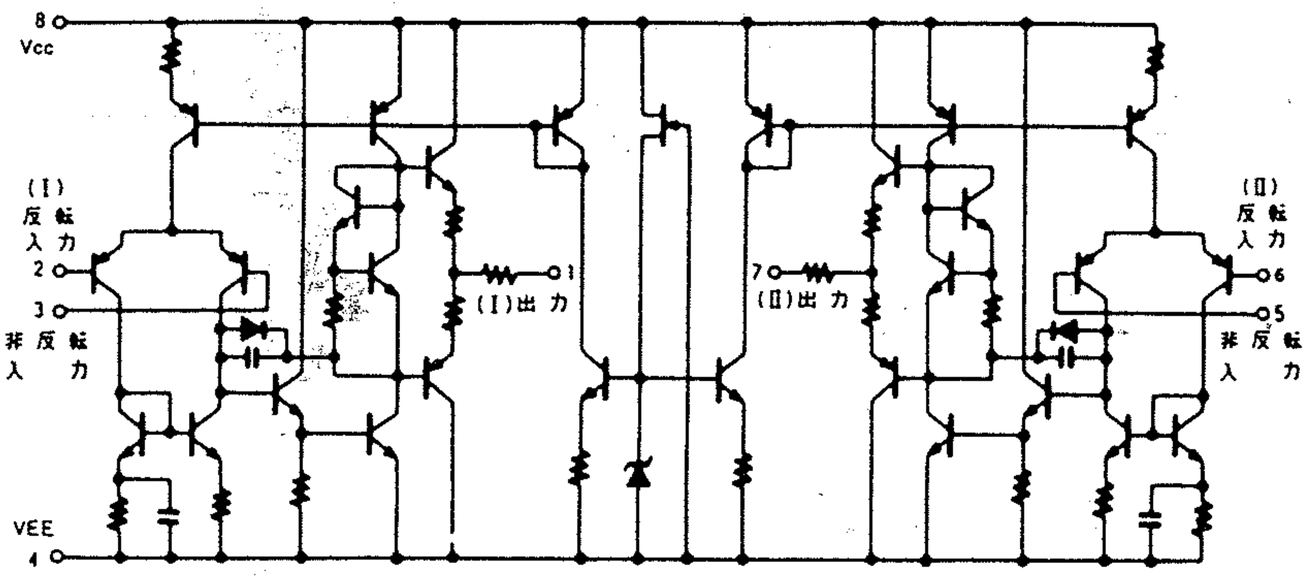
PRECAUTIONS

1. **Replacing the fuses**
   For continued protection against risk fire, replace only with same type and same rating fuse.

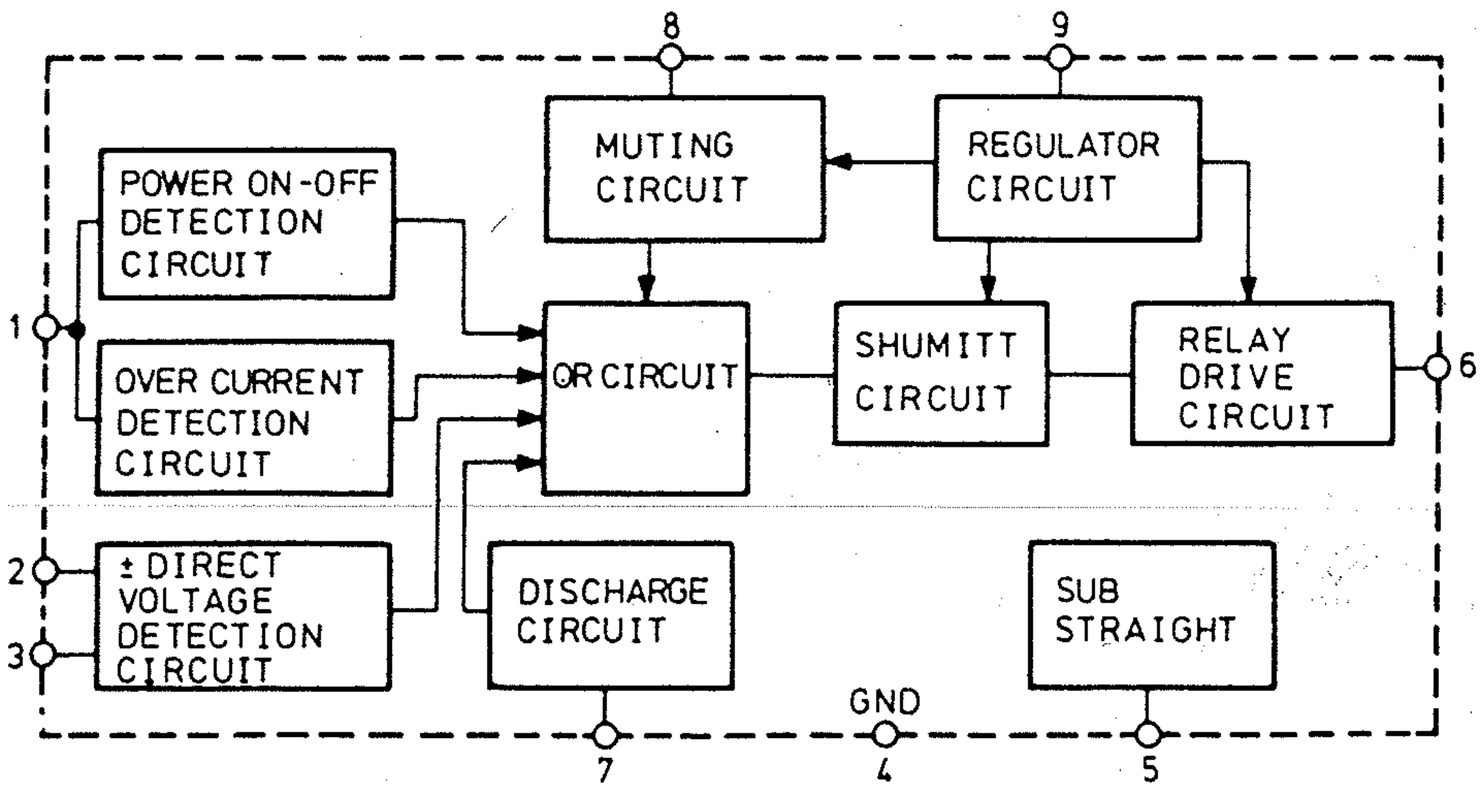
CIRCUIT NO.	PART NO.	DESCRIPTION
F902	252077 or	4 A-SE-EAK Primary fuse
	252077CC	4 A-SE-EAK Primary fuse

IC BLOCK DIAGRAM

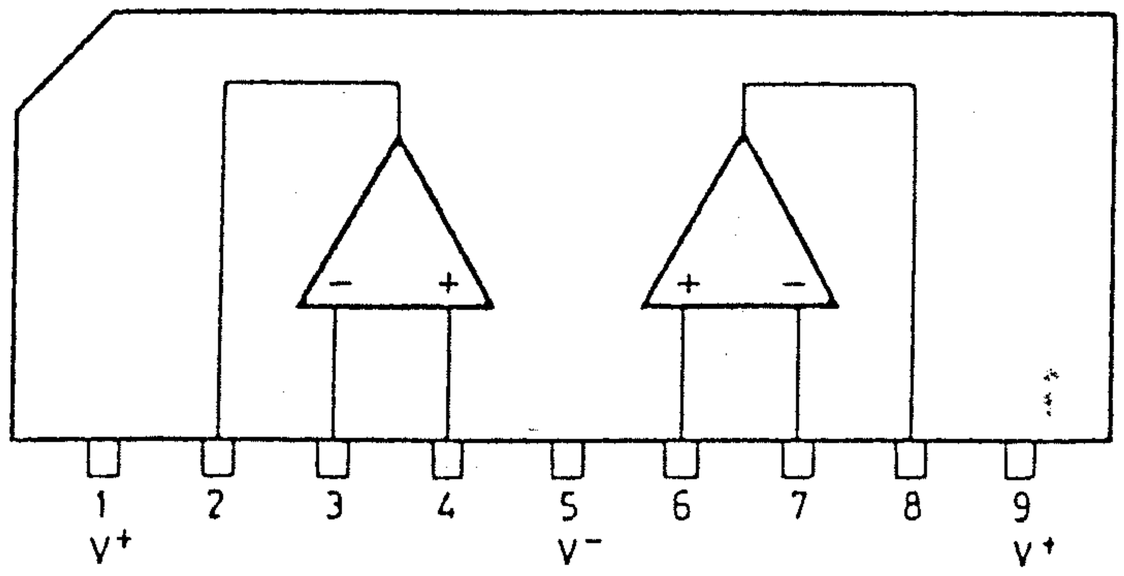
NJM-4560DX(OP Amp)



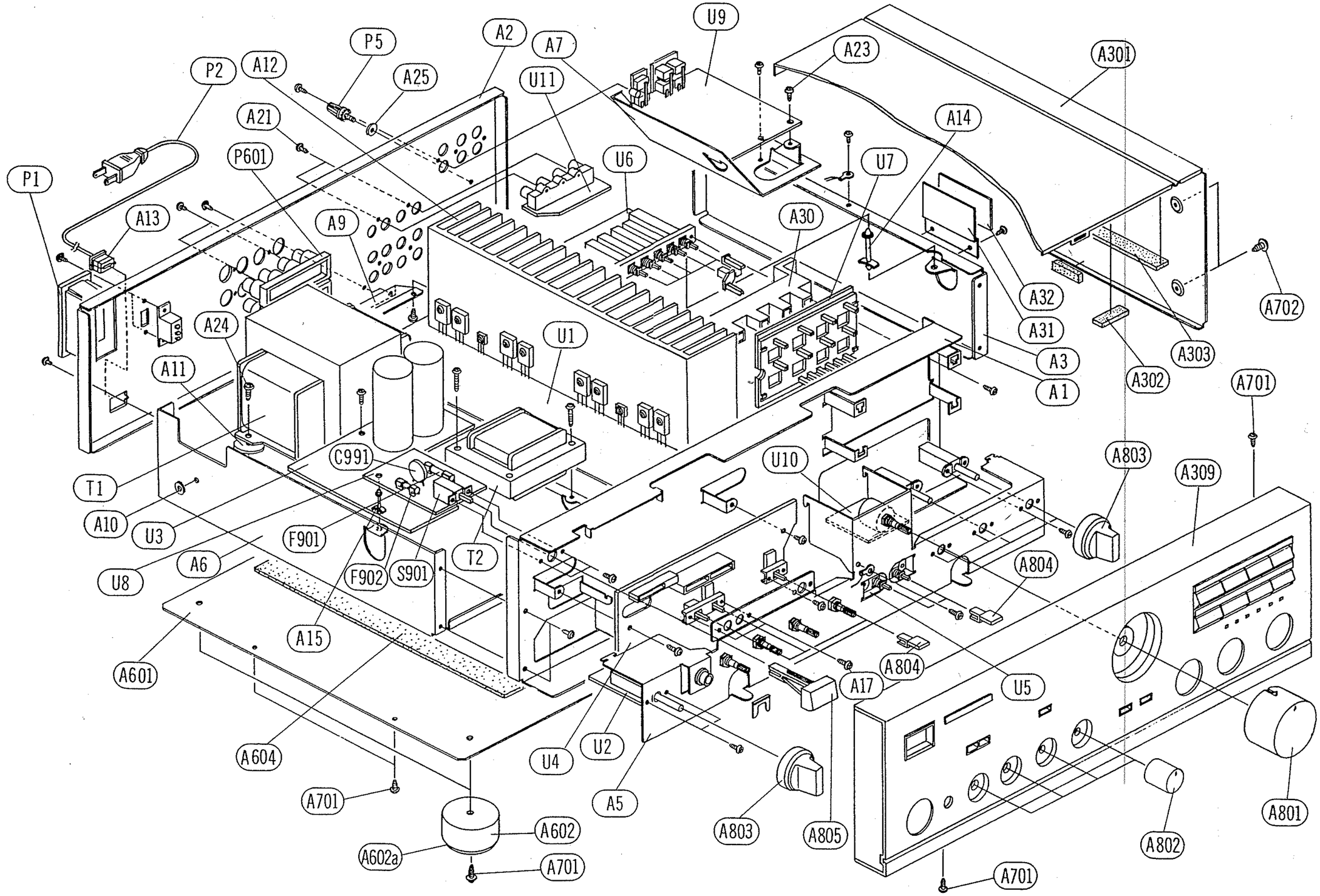
TA7317P(Protection Circuit)



NJM-4558SE (OP Amp)



CHASSIS-EXPLODED VIEW



CHASSIS-EXPLODED VIEW-PARTS LIST

REF. NO	PART NO.	DESCRIPTION
A1	27110305C	FRONT BRACKET
A2	27121000A	BACK PANEL
A3	27115224	SIDE BRACKET
A5	27130448A	BRACKET (F)
A6	27130449A	BRACKET (L)
A7	27130450	BRACKET (EQ)
A8	28140730	CUSHION
A9	27141084A	BRACKET (H)
A10	27270212	SPACER
A11	27270213	SPACER (PT)
A12	27160206	HEATSINK
A13	27300750	BUSHING (CORD)
A14	27190164	HOLDER LCBS-14NS
A15	27190062	HOLDER LCBS-12N
A17	82143006	PAN HEAD SCREW, 3P+6FNBC
A21	834430108	TAP-TIGHT SCREW, 3TTS+10BBC
A23	831130088	TAP-TIGHT SCREW, 3TTW+8B
A24	830440109	TAP-TIGHT SCREW, 4TTC+10CBC
A25	87613010	WASHER, W3X10F
A30	27273059A	JOINT AS
A31	27150236	SHIELD PLATE
A32	28175140	INSULATING PLATE
A301	28184333A	TOP COVER [BLACK]
A301	28184363	TOP COVER
A302	28140020	CUSHION
A303	28140695	CUSHION
A309	1A031121	FRONT PANEL [BLACK]
A309	1A032121	FRONT PANEL
A601	27170234B	BOTTOM BOARD
A602	27175153	LEG ASS'Y
(A602a)	28140747	CUSHION
A604	28140961	CUSHION, 25 x 140mm
A701	834430088	TAP-TIGHT SCREW, 3TTS+8BBC
A702	83844089	TAP-TIGTH SCREW, 4TTB+8CBC
A801	28323027	KNOB (VOL) [BLACK]
A801	28323028	KNOB (VOL)
A802	28323029	KNOB (TONE) [BLACK]
A802	28323030	KNOB (TONE)
A803	28322700	KNOB (SP) [BLACK]
A803	28323036	KNOB (SP)
A804	28322701	KNOB (PUSH) [BLACK]
A804	28323037	KNOB (PUSH)
A805	28322702	KNOB (POW) [BLACK]
A805	28323034	KNOB (POW)

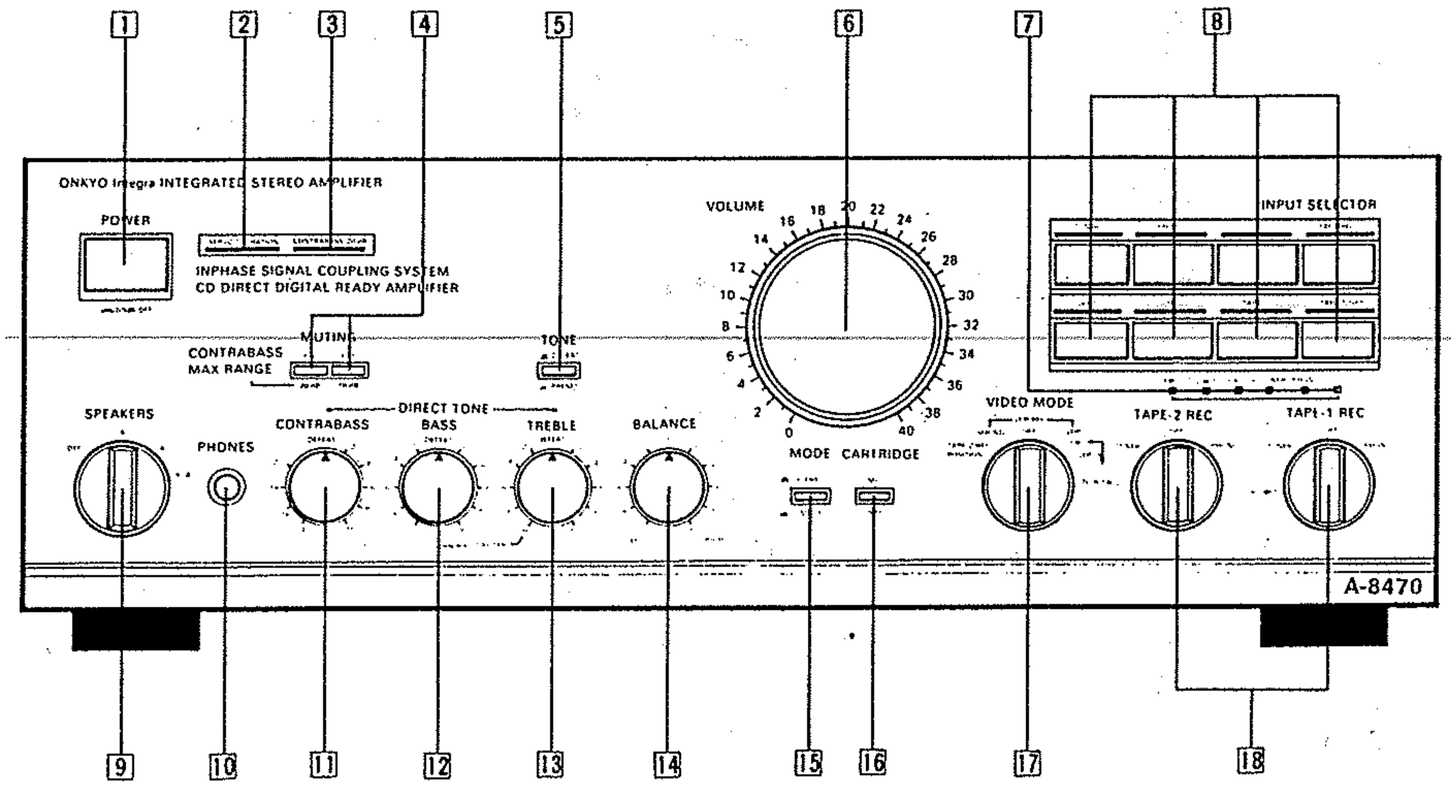
REF.NO.	PART NO.	DESCRIPTION
⚠T1	2300228A	POWER TRANSFORMER, NPT-935G
⚠T2	231125	CHOKE COIL
⚠S901	25035398	POWER SWITCH, NPS-111-L362P
⚠P2	253130A or	AC CORD, AS-CEE or
	253128B	AC CORD, AS-CEE
P5	25060044	TERMINAL
P601, P602	25060108	TERMINAL, NTM-4PRMN42
⚠F902	252077 or	FUSE, 4A-SE-EAK or
	252077CC	FUSE, 4A-SE-EAK
⚠F902a	25050065	FUSE HOLDER, YSH403T
⚠C991	3500065A	0.01μF, AC 400V/125V, CAPACITOR (IS)
Q517, Q518	2212864 or	2SC3419 Y or
	2212863	2SC3419 O
Q609, Q610	2201703 or	2SC3855 O or
	2201706 or	2SC3855 P or
	2201704	2SC3855 Y
Q611, Q612	2201693 or	2SA1491 O or
	2201696 or	2SA1491 P or
	2201694	2SA1491 Y
Q613, Q614	2201703 or	2SC3855 O or
	2201706 or	2SC3855 P or
	2201704	2SC3855 Y
Q615, Q616	2201693 or	2SA1491 O or
	2201696 or	2SA1491 P or
	2201694	2SA1491 Y
C15~C18	372121024	1000pF, 50V, CAPACITOR STYRENE
C19	372121014	100 pF, 50V, CAPACITOR STYRENE
U1	1A032569-1B	NAAF-2969-1B, REC. SELECTOR AND POWER AMPLIFIER CIRCUIT PC BOARD ASS'Y
U2	1A030570-1	NASW-2970-1, SPEAKER SWITCH PC BOARD ASS'Y
U3	1A030573-1	NAPS-2973-1, POWER SUPPLY PC BOARD ASS'Y
U4	1A030574-1	NASW-2974-1, TONE AND MUTING SWITCH PC BOARD ASS'Y
U5	1A030575-1	NAAF-2975-1, TONE CONTROL CIRCUIT PC BOARD ASS'Y
U6	1A030576-1	NASW-2976-1, INPUT SELECTOR SWITCH PC BOARD ASS'Y
U7	1A030577-1	NADIS-2977-1, DISPLAY LED PC BOARD ASS'Y

REF.NO.	PART NO.	DESCRIPTION
U8	1A030578-1A	NASW-2978-1A, POWER SWITCH PC BOARD ASS'Y
U9	1A032579-1A	NAAF-2979-1A, EQUALIZER CIRCUIT PC BOARD ASS'Y
U10	1A030580-1	NAAF-2980-1, VOLUME CONTROL PC BOARD ASS'Y
U11	1A030582-1	NAETC-2982-1, VIDEO TERMINAL PC BOARD ASS'Y

NOTE: [BLACK]: ONLY BLACK MODEL

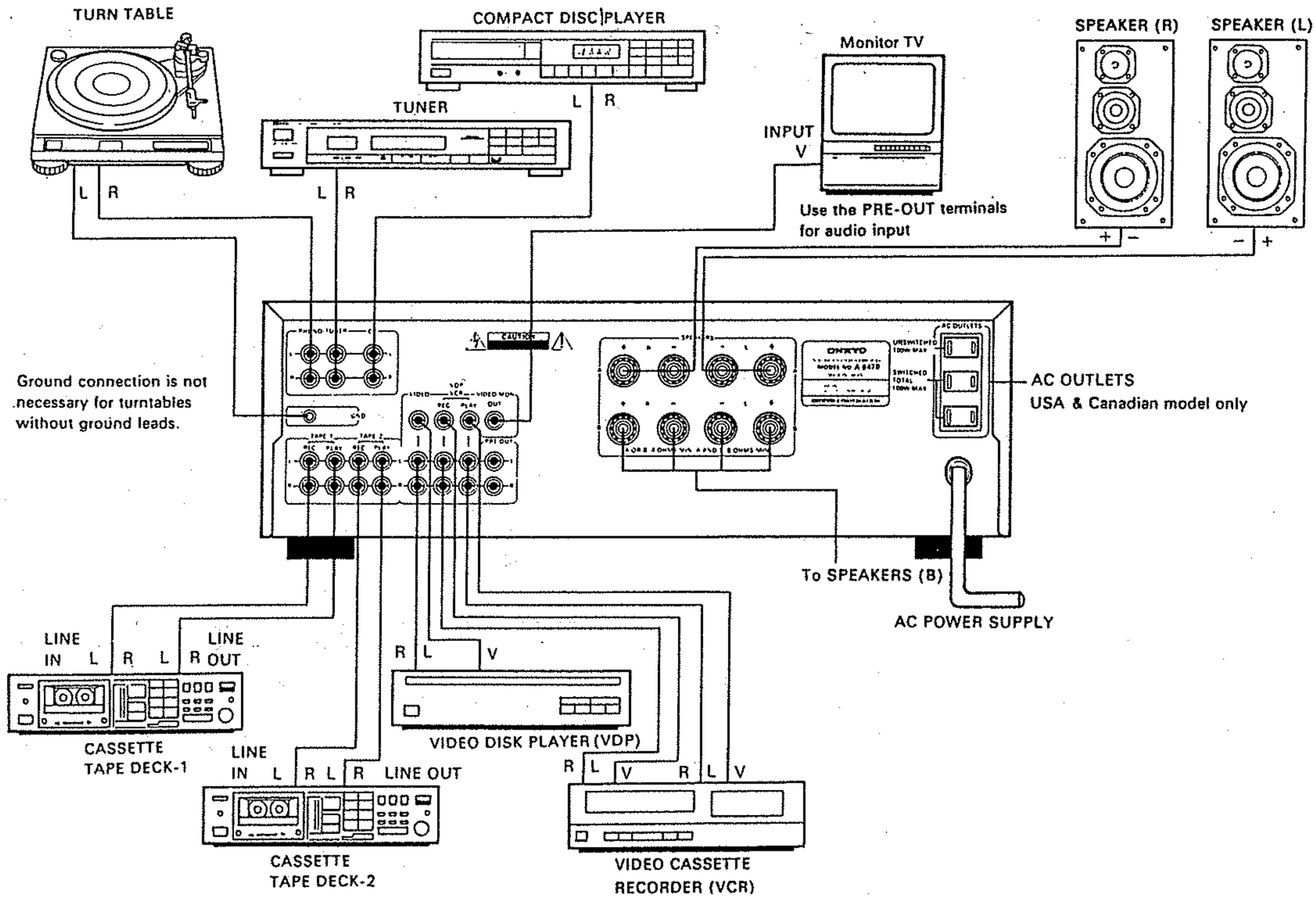
NOTE: THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PARTS NUMBER SPECIFIED.

FRONT PANEL FACILITIES



1. Power switch (POWER)
2. Servo operation indicator (SERVO OPERATION)
3. Contra bass indicator (CONTRA BASS/20dB)
4. Muting switch (MUTING)
5. Tone switch (TONE)
6. Volume control (VOLUME)
7. Recording mode indicators
8. Input selector switches and indicator (INPUT SELECTOR)
   CD DIRECT, CD, PHONO, TUNER, TAPE-1/DAT, TAPE-2, VDP, VCR
9. Speaker selector (SPEAKERS)
   OFF, A, B, A+B
10. Headphone jack (PHONES)
11. Contra bass (CONTRA BASS)
12. Bass control (BASS)
13. Treble control (TREBLE)
14. Balance control (BALANCE)
15. Mode selector (MODE)
    STEREO, MONO
16. Cartridge selector (CARTRIDGE)
    MC, MM
17. Video mode switch (VIDEO MODE)
    SOUND, OFF, VDP-VCR, VDP
18. Recording source selectors (TAPE-1 REC, TAPE-2 REC)
    TAPE-1 DVB 2 ►1, V, TUNER, OFF, PHONO, CD
    TAPE-2 DVB 1►2, V, TUNER, OFF, PHONO, CD

SYSTEM CONNECTIONS



PRINTED CIRCUIT BOARD PARTS LIST

REC. SELECTOR AND POWER AMPLIFIER CIRCUIT PC BOARD (NAAF-2969-1B)-PART LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q519, Q520	222942	NJM4558SE
Q701	222584	TA7317P
	Transistors	
Q501, Q502	2212805 or	2SK389 GR or
	2212806 or	2SK389 BL or
	2212807	2SK389 V
Q503~Q506, Q617	2211733 or	2SC1845 E or
Q618	2211732	2SC1845 F
Q507, Q508,	2211515 or	2SA995 F or
	2211516	2SA995 G
Q509, Q510, Q515	2211634 or	2SC2229 Y or
Q516, Q601, Q602	2211633	2SC2229 O
Q511, Q512	2211455 or	2SA1015 GR or
	2210803	2SA733 P
Q513, Q514, Q603	2211354 or	2SA949 Y or
Q604	2211353	2SA949 O
Q605, Q606	2200864 or	2SC2238 Y or
	2200863	2SC2238 O
Q607, Q608	2200874 or	2SA968 Y or
	2200873	2SA968 O
Q901	2201512 or	2SD1200 Q or
	2201513	2SD1200 R
Q902	2201502 or	2SB889 Q or
	2201503	2SB889 R
	Diodes	
D351~D504, D513	223163	1SS133
D507~D510, D514		
D517~D520, D704		
D505, D506, D511	225232	LTZ R15, LED
D512		
D515, D516	4000068	VD1222
D701	223890	W01RL
D702	223145	1S2076TD
D703	2239493 or	RD6.2E B3 or
	2243163	MTZ6.2-C
D901, D902	2239754 or	RD22E B4 or
	2243294	MTZ22-D
	Coils	
L501, L502	231098A	NCH-4145
L601, L602	231134S	S-0.8E
	Capacitors	
C363~C370	372121014	100pF, 50V, Styrene
C503, C504		
C501, C502	372126804	68pF, 50V, Styrene
C505, C506	354780229	2.2μF, 50V, Elect.
C509, C510	379122235	0.022μF, 50V, Film (DEW)
C511, C512	372123304	33pF, 50V, Styrene
C513~C516	391252207	22μF, 25V, Elect.(MUSE)
C605, C606	372121024	1200pF, 50V, Styrene
C607, C608	379121045	0.1μF, 50V Film (DEW)
C613~C616		
C609, C610	379124735	0.047μF, 50V, Film (DEW)
C619, C620	372121024	1000pF, 50V Styrene
C701	354722219	220μF, 6.3V, Elect.
C703	354742209	22μF, 16V, Elect.
C704	354784799	0.47μF, 50V, Elect.
C706	354743319	330μF, 16V, Elect.
C707	354744719	470μF, 16V, Elect.
C708, C710	379122235	0.022μF, 50V Film (DEW)
C712	354741019	100μF, 16V, Elect.
C901, C902	354772219	220μF, 63V, Elect.
C903, C904	354764709	47μF, 35V, Elect.
C905, C906	354754719	470μF, 25V, Elect.
C911, C912	354782219	220μF, 50V Elect.
	Resistors	
R507, R508	441623314NF	330Ω, 1W, Metal oxide film
R523, R524	442520684F	6.8Ω, 1/2W, Metal oxide film
R525, R526	442525614F	560Ω, 1/2W, Metal oxide film
R527, R528	442524734F	47kΩ, 1/2W, Metal oxide film
R531, R532	5210062	N06HR4.7KBD, Semi-fixed
R533, R534	442524314F	430Ω, 1/2W, Metal oxide film
R601, R602	442521024F	1kΩ, 1/2W Metal oxide film
R603~R606	442525104F	51Ω, 1/2W, Metal oxide film
R607~R614	442520224F	2.2Ω, 1/2W, Metal oxide film
R615~R630	4000063	0.47Ω, 2W, Metal plate
R635~R638	4000061	0.33Ω, 2W, Metal plate
R645~R648	441621604NF	16Ω, 1W, Metal oxide film
R649, R650	442521204F	12Ω, 1/2W, Metal oxide film
R717	441522294F	0.22Ω, 1/2W, Metal oxide film
R901, R902	441623004NF	30Ω, 1W, Metal oxide film
R903, R904	442525114F	510Ω, 1/2W, Metal oxide film
R905, R906	442528224F	8.2kΩ, 1/2W, Metal oxide film
	Relay	
RL701	25065316	NRL-2P7A-DC12-43
	Switches	
S351	25030261	NRSM-146-15SS
S352	25030260	NRSM-166-15SS
S353	25030259	NRSM-164-15SS VIDEO MODE
	Terminals	
P391, P393	25045165	NPJ-4PDBL-59
P392, P394	25045171	NPJ-4PDBL-65
	Soskets	
P501	2000551	NSAS-6P507
	Plate	
	27300879	Bus

SPEAKER SWITCH PC BOARD (NASW-2970-1)-PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	Resistors	
R753, R754	441623914F	390Ω, 1W, Metal oxide film
	Switch	
S751	25030275	NRSM-144-15SS
	Socket ass'y	
P752, P753	2000671	NSAS-3P-627
	Stereo jack	
P751	25045164	HLJ-4317-01-3020

POWER SUPPLY PC BOARD (NAPS-2973-1)-PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	Diodes	
D951	22380014F	PB102F
D952, D953	22380003F	1N5402F
	Capacitors	
C951~C953	375104745	0.47μF, 125V, Film (ME)
C954, C955	3504208	12000μF, 71V, Elect.

CIRCUIT NO.	PART NO.	DESCRIPTION
	Resistors	
R951	442525104F	51Ω, 1/2W, Metal oxide film
R961, R962	442522294F	0.22μF, 1/2W, Metal oxide film
	Plate	
	27300732	Bus

TONE AND MUTING SWITCH PC BOARD (NASW-2974-1)-PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	Diodes	
D711	225137CG or	SEL2413E CG, LED
	225137CY or	SEL2413E CY, LED
	225137DG or	SEL2413E DG, LED
	225137DY	SEL2413E DY, LED
D712, D713, D714	225142DX2	SEL2913K DX2, LED
	Capacitors	
C351, C352	354782299	0.22μF, 50V, Elect.
C353, C354	354784799	0.47μF, 50V, Elect.
	Switches	
S311, S312	25035540	NPS-162-122-L502
S314	25035541	NPS-142-L503
	Socket	
JL701	25050267	NSCT-3P95
	Holder	
	27190493-1	(LED-3)

TONE CONTROL CIRCUIT PC BOARD (NAAF-2975-1)-PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	Capacitors	
C315, C316	379128225	8200pF, 50V, Film (DEW)
C317, C318	379125625	5600pF, 50V, Film (DEW)
C319, C320	379121025	1000pF, 50V, Film (DEW)
C321, C322	379123935	0.039μF, 50V, Film (DEW)
C325, C326	379128235	0.082μF, 50V, Film (DEW)
	Resistors	
R317	5148107	N16RGMC250KMN25, Variable
R321	5148108	N16RGM11C219K25, Variable
R323	5144001	N16RQM11C139K176K25, Variable
R337	5148113A	N16RGM11C176K25, Variable
	Switches	
S309, (S310)	25035539	NPS-142-122-L501
	Sockets	
P101, P102	2000676	NSAS-6P632

INPUT SELECTOR SWITCH PC BOARD (NASW-2976-1)-PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	Switches	
S301~S308	25035538	NPS-742-162-L500

CIRCUIT NO.	PARTS NO.	DESCRIPTION
	Sockets	
P103	2000551	NSAS-6P507
P301	2000564	NSAS-6P520
P303	2000607	NSAS-18P563
JL103	25050267	NSCT-3P95
P351, P354	25050272	NSCT-8P100
P352, P353, P356	25050267	NSCT-3P95
P355	25050273	NSCT-9P101
	Plugs	
P302	25055137	NPLG-7P121
P501	25055133	NPLG-3P117
	Holder	
	27190494A	(LED-4)

DISPLAY LED PC BOARD (NADIS-2977-1)-PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	Diodes	
D302~D308	225137DG or	SEL2413E DG, LED or
	225137DY or	SEL2413E DY, LED or
	225137CG or	SEL2413E CG, LED or
	225137CY	SEL2413E CY, LED
D311~D316, D301	225142CX1 or	SEL2913K CX1, LED or
	225142CX2 or	SEL2913K CX2, LED or
	225142DX1 or	SEL2913K DX1, LED or
	225142DX2	SEL2913K DX2, LED
	Plug	
P303	25055190	NPLG-9P174
	Socket	
JL357	25050272	NSCT-8P100

POWER SWICTH PC BOARD (NASW-2978-1A) -PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	Switch	
S901	25035398	NPS-111-L362P
	Capacitor	
C991	3500065A	0.01μF, AC400V/125V (IS)
	Fuse holder	
F902a	25050065	YSH403T

EQUALIZER CIRCUIT PC BOARD (NAAF-2979-1A)-PARTS LIST

CIRCUIT NO.	PART NO.	DESCRIPTION
	ICs	
Q105	222570	NJM4560DX
	Transistors	
Q101~Q104	2212185 or 2212186	2SK170 GR or 2SK170 BL
	Coils	
L101, L102	231133	NCH-1188
L301, L302	231069A	NCH-1119

CIRCUIT NO.	PART NO.	DESCRIPTION
	Capacitors	
C101, C102	372121814	180pF, 50V, Styrene
C105, C106	372122714	270pF, 50V, Styrene
C107, C108	372121014	100pF, 50V, Styrene
C109, C110	379122225	2200pF, 50V, Film (DEW)
C111, C112	379122234	0.022μF, 50V, Film (DEW)
C113, C114	379121834	0.018μF, 50V, Film (DEW)
C115, C116	379124734	0.047μF, 50V, Film (DEW)
C117, C118	391222227	2200μF, 6.3V, Elect.(MUSE)
C119, C120	391280227	2.2μF, 50V, Elect.(MUSE)
C121, C122	379121225	1200pF, 50V, Film (DEW)
C123, C124 C129	372121024	10000pF, 50V, Styrene
C131, C132	354754719	470μF, 25V, Elect.
C371, C372 C397, C398	372121014	100pF, 50V, Styrene
	Terminals	
P191	25045218	NPJ-4PDBL-96
P395	25045190	NPJ-2PDBL74
	Plugs	
P101~P103, P301	25055133	NPLG-3P117
	Socket	
JL104, JL360	25050267	NSCT-3P95

VOLUME CONTROL PC BOARD (NAAF-2980-1)-PARTS LIST

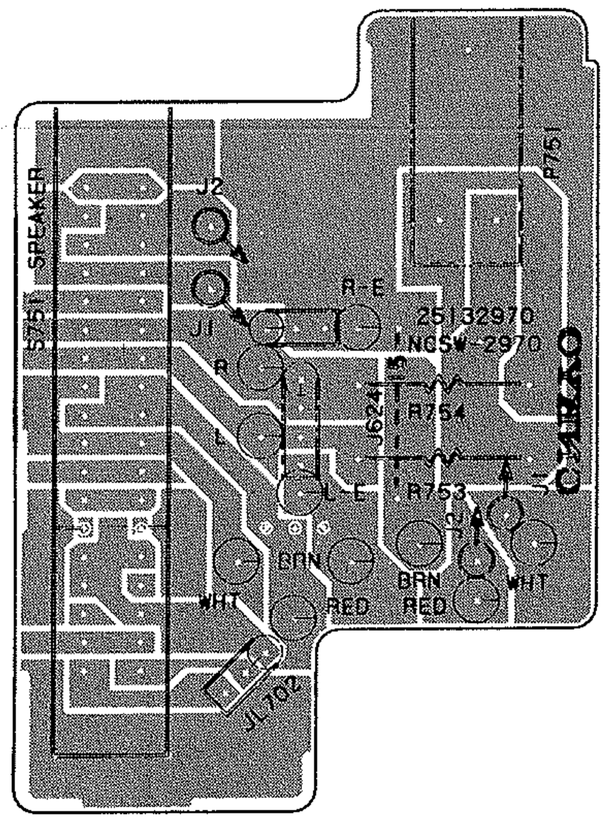
CIRCUIT NO.	PART NO.	DESCRIPTION
	Resistors	
R361	5144004	N16RQM100KBT100KBT25, Variable
	Socket	
P302	2000622A	NSAS-14P578

VIDEO TERMINAL PC BOARD (NAETC-2982-1)-PARTS LIST

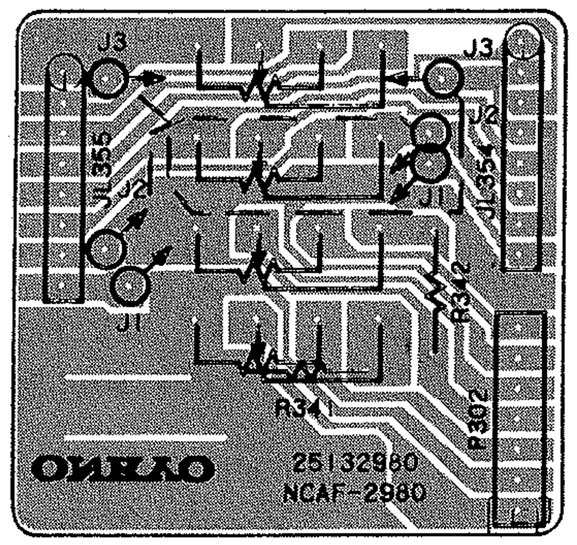
CIRCUIT NO.	PART NO.	DESCRIPTION
	Diodes	
D801, D802	223145	1S2076TD
	Relays	
RL801, RL802	25065298	NRL-1P1A-DC12-40
	Socket	
JL801	25050268	NSCT-4P96
	Terminal	
	25045207	NPJ-4PDBL87

PRINTED CIRCUIT BOARD VIEW FROM BOTTOM SIDE

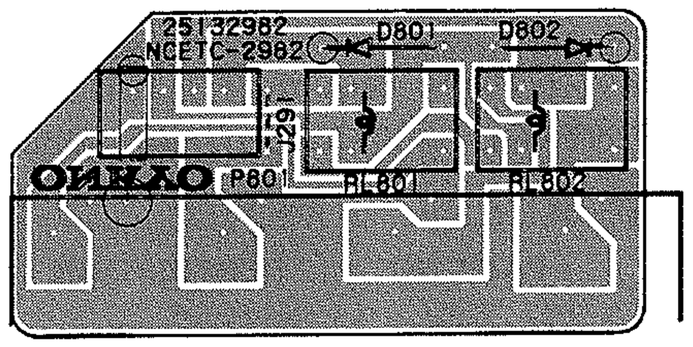
NASW-2970



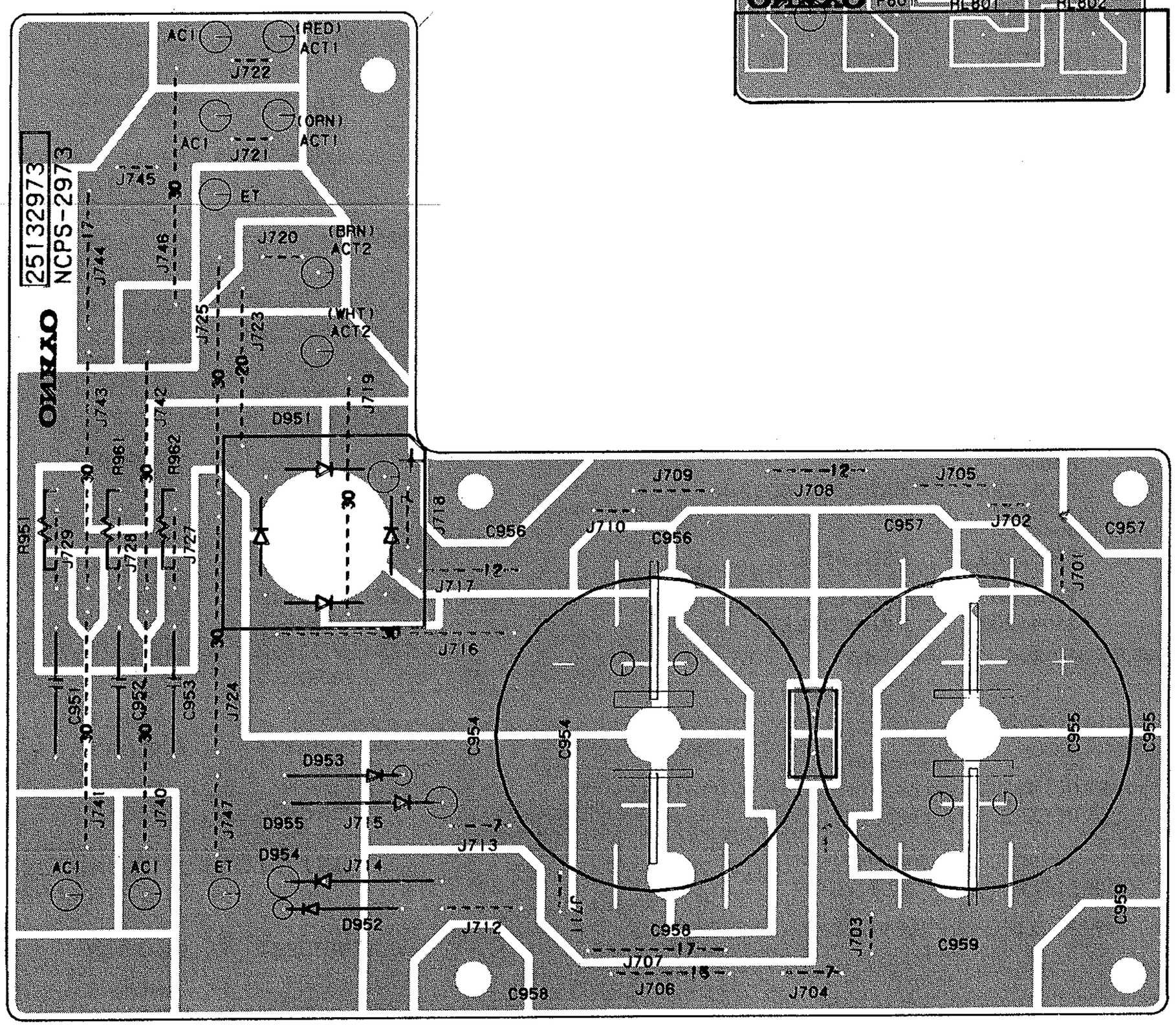
NAAF-2980

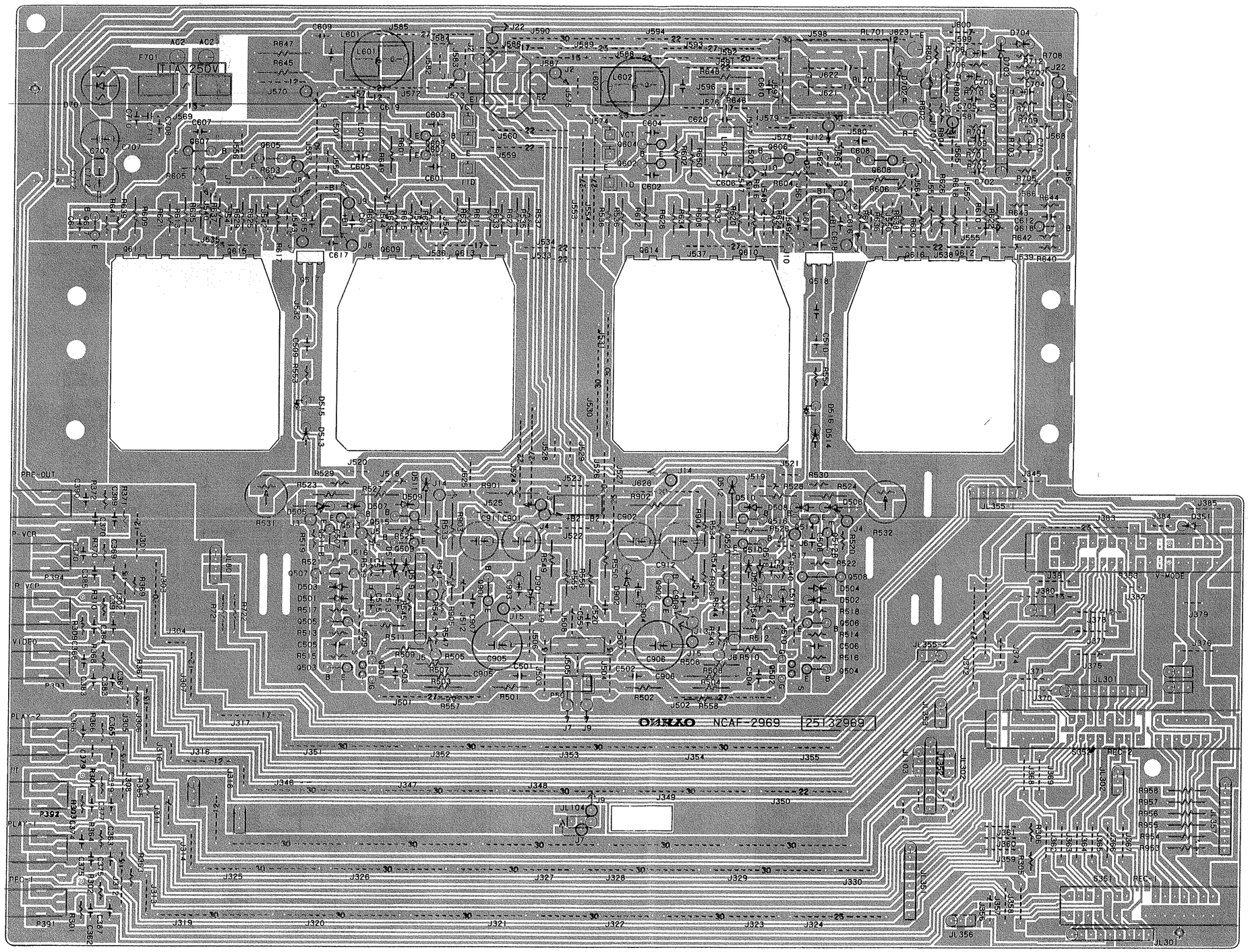


NAETC-2982

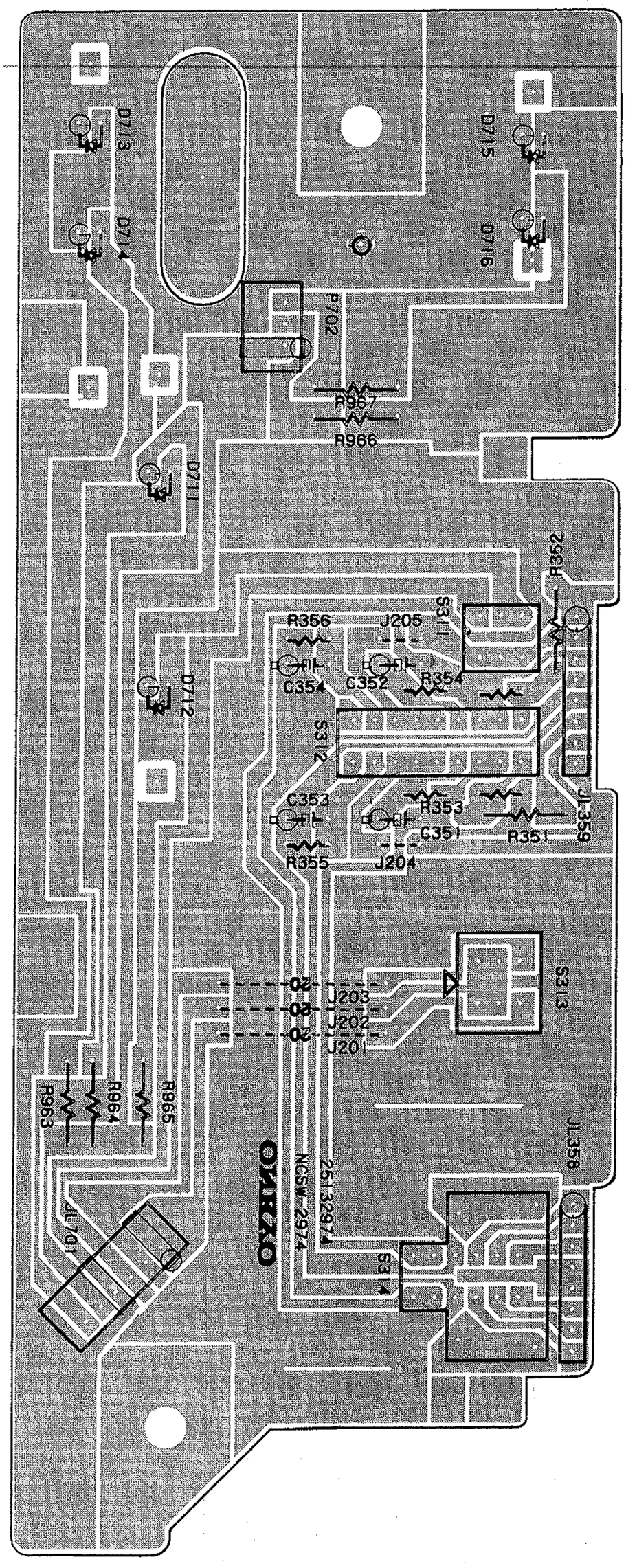


NAPS-2973

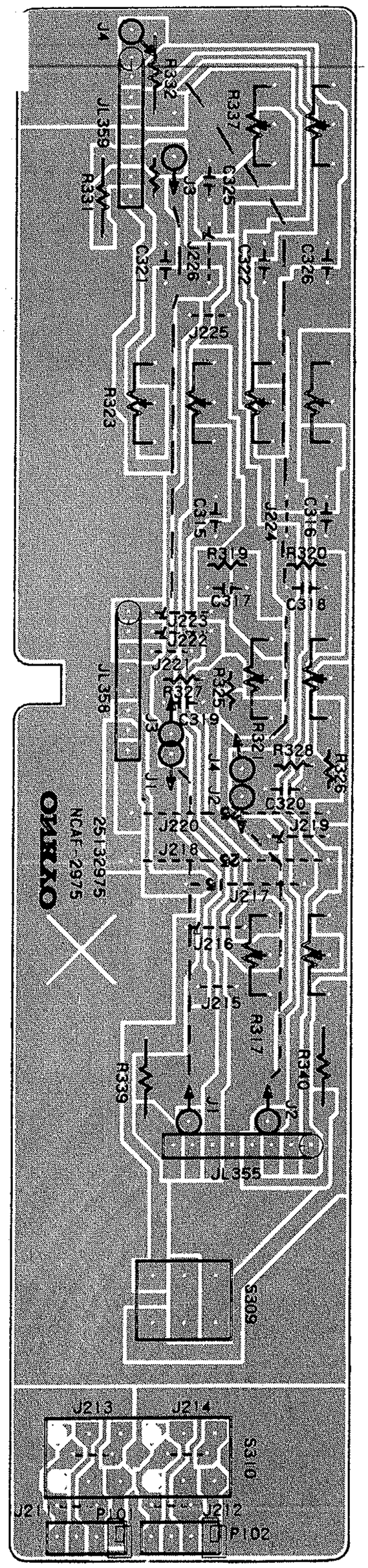



T1A 250V
F701
PRE-OUT
P-VCR
VIDEO
PLAY-2
PLAY
REC
OMRON NCAF-2969 25132969
REC-2
V-MODE

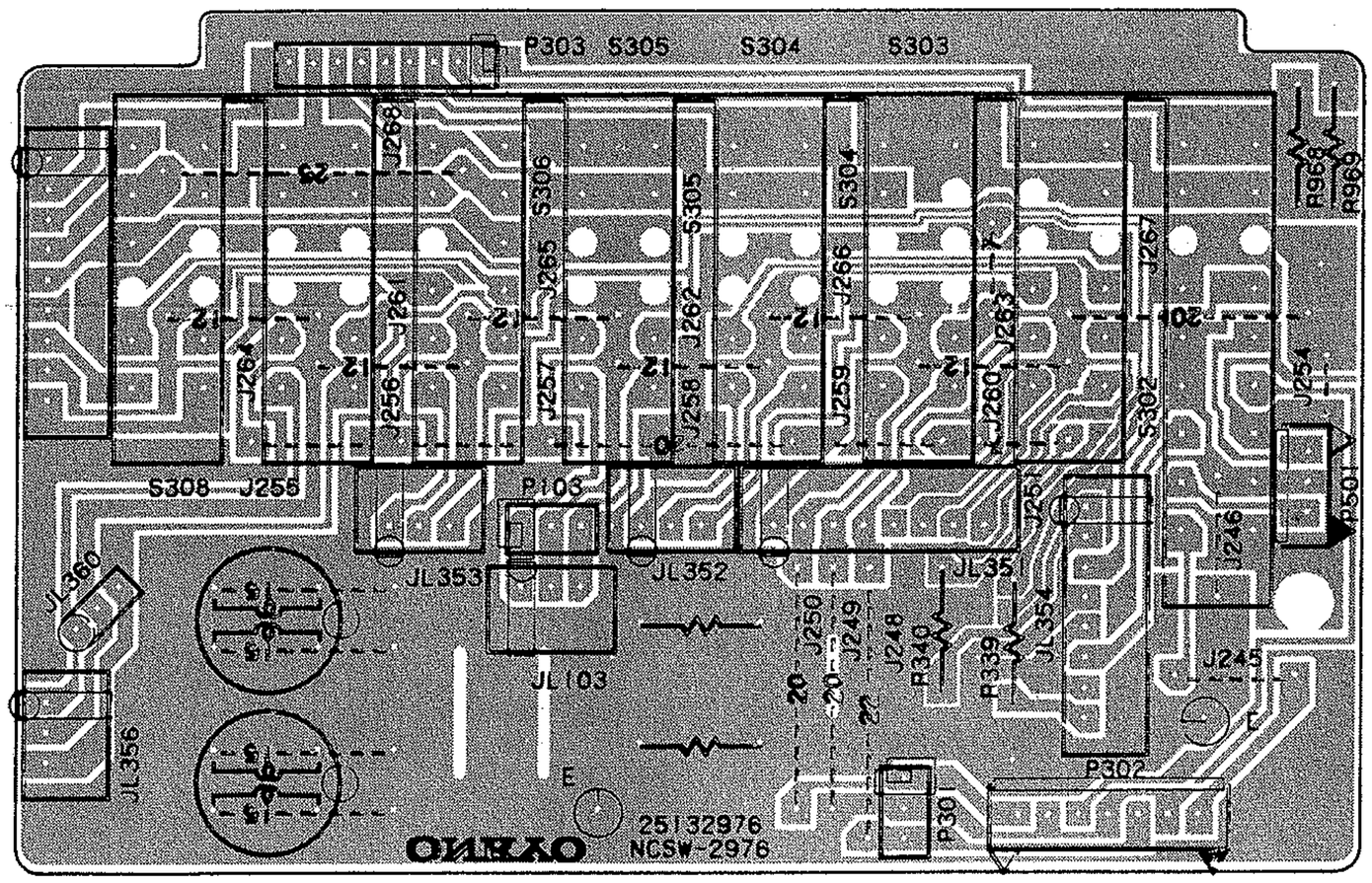
NASW-2974



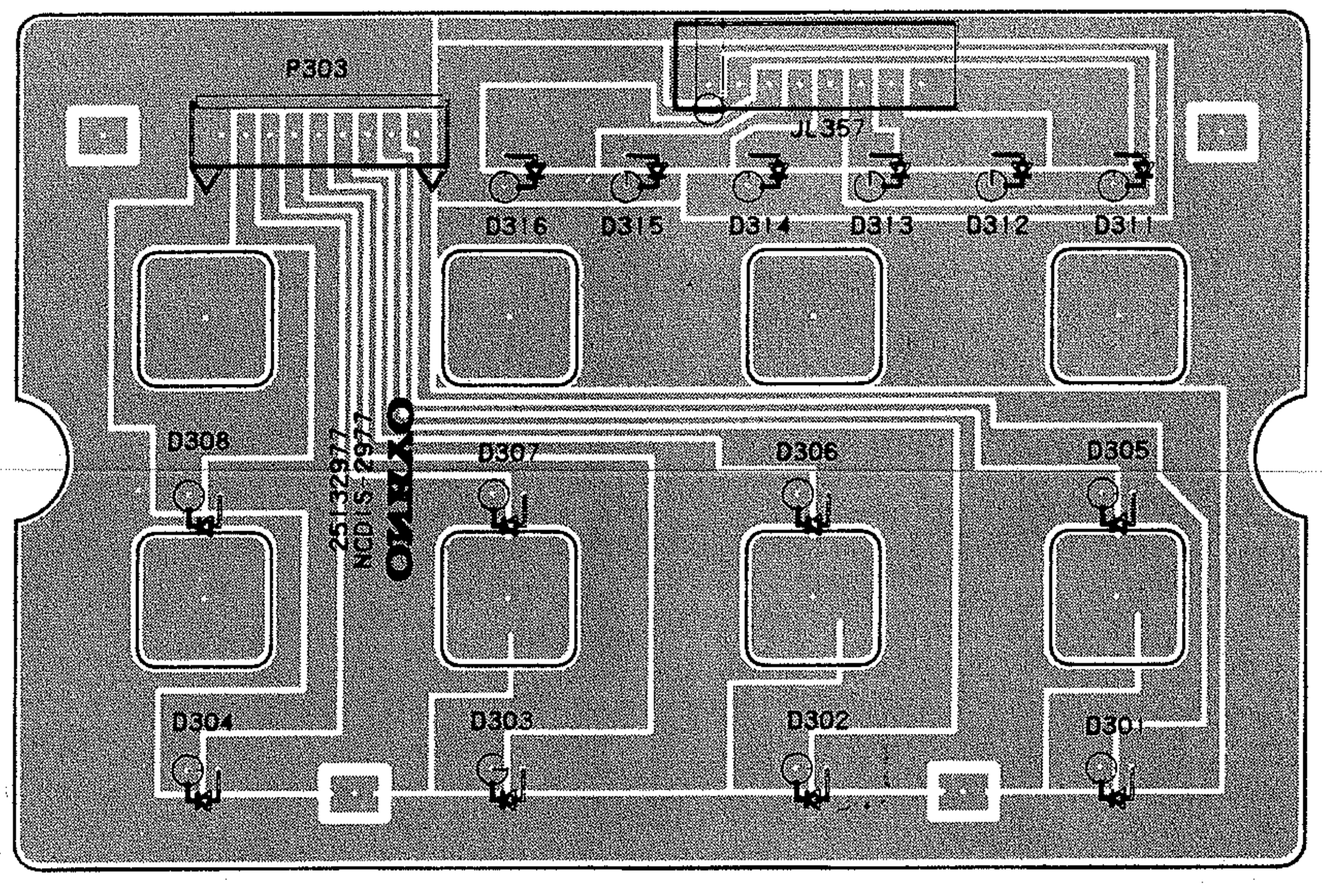
NAAF-2975



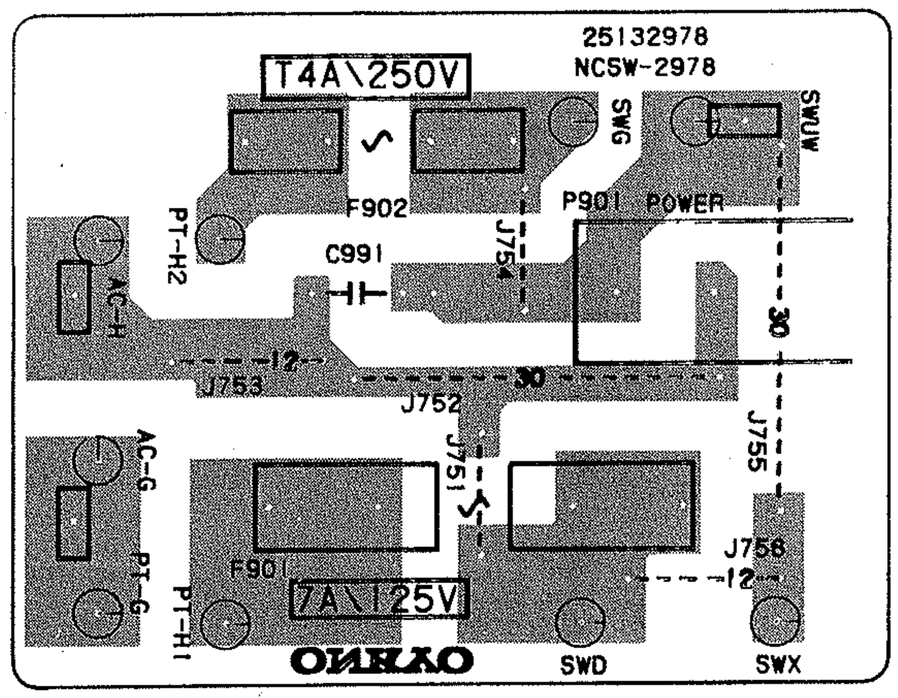
NASW-2976



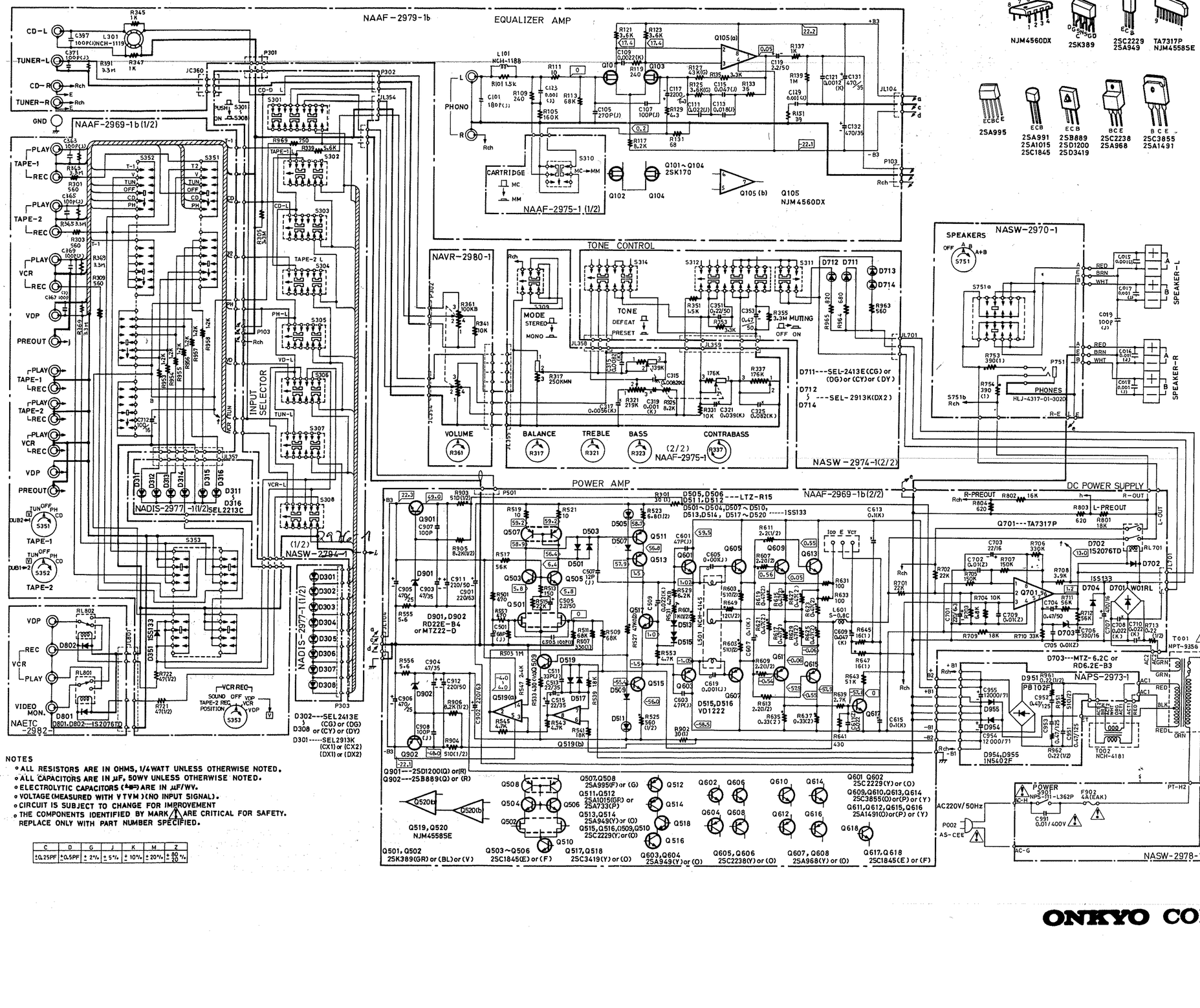
NADIS-2977



NASW-2978



SCHEMATIC DIAGRAM

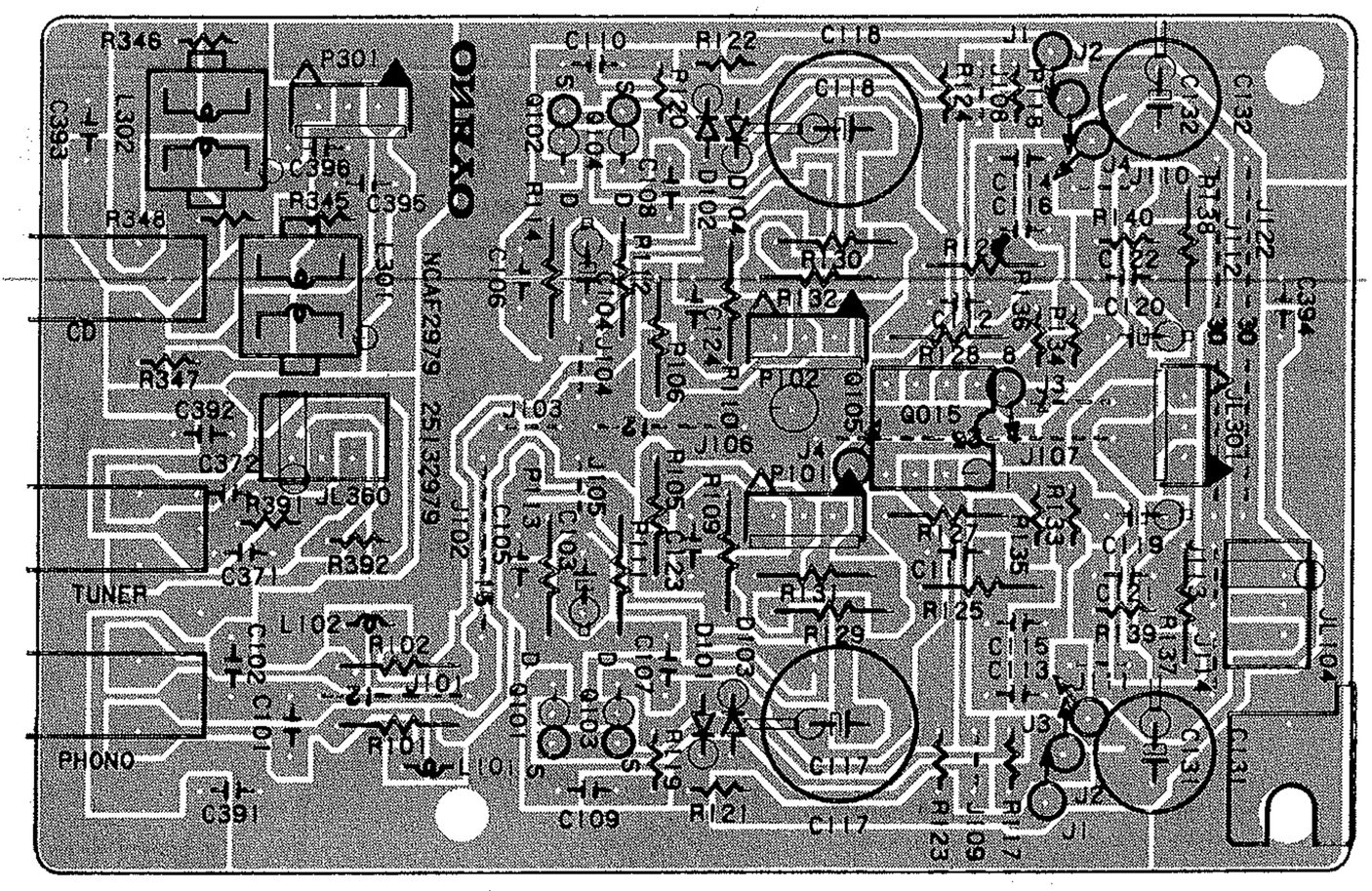


NOTES

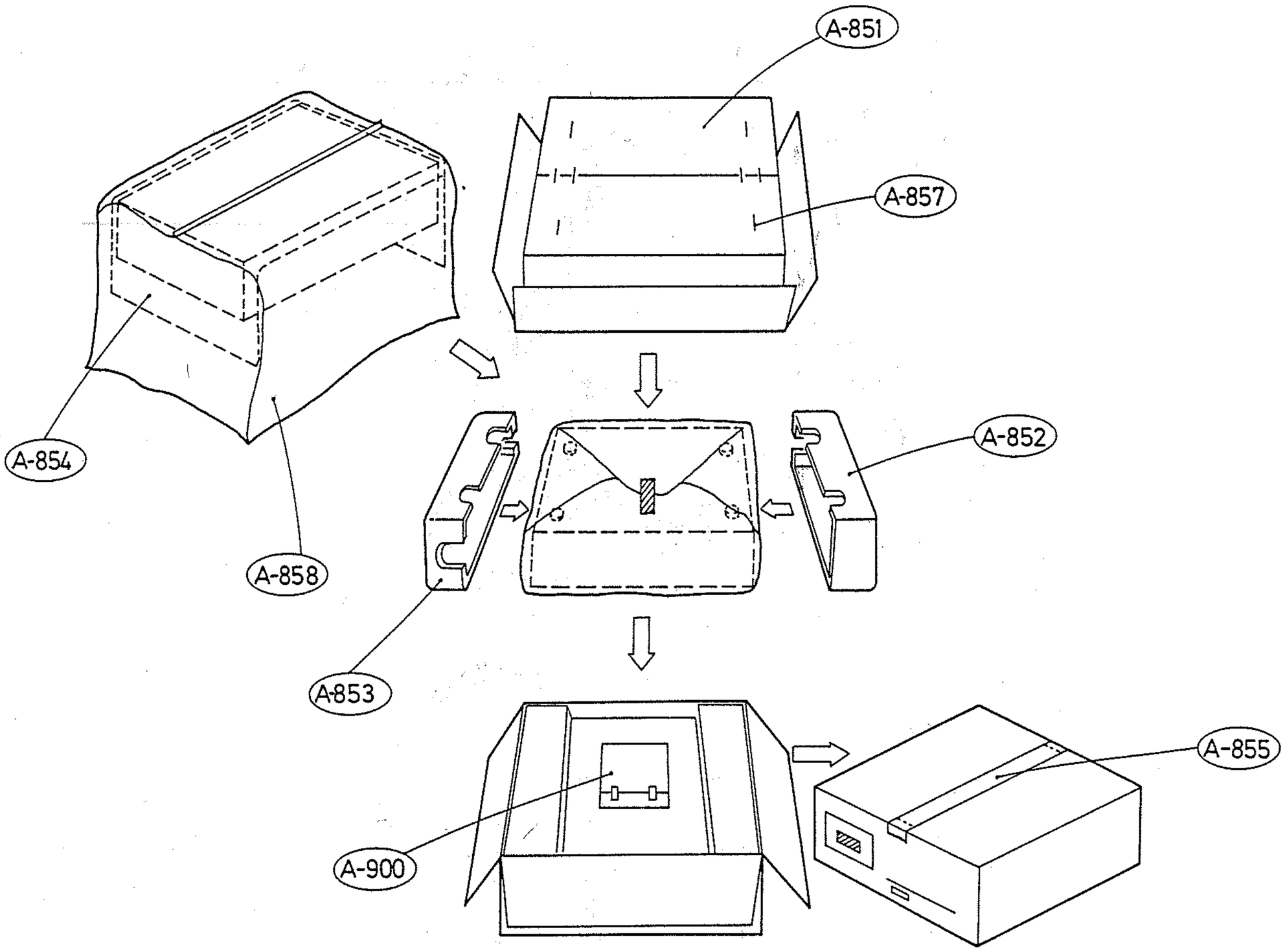
- ALL RESISTORS ARE IN OHMS, 1/4WATT UNLESS OTHERWISE NOTED.
- ALL CAPACITORS ARE IN μF, 50WV UNLESS OTHERWISE NOTED.
- ELECTROLYTIC CAPACITORS (≠≠) ARE IN μF/WV.
- VOLTAGE (MEASURED WITH V.T.V.M.) (NO INPUT SIGNAL).
- CIRCUIT IS SUBJECT TO CHANGE FOR IMPROVEMENT
- THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR SAFETY. REPLACE ONLY WITH PART NUMBER SPECIFIED.

C	D	G	J	K	M	Z
±0.25PF	±0.5PF	± 2%	± 5%	± 10%	± 20%	+80 −20 %

ONKYO CORPORATION


OMRON
NAAF2979
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PACKING PROCEDURES



REF. NO.	PART NO.	DESCRIPTION
A851	29051536	MASTER CARTON BOX
A851	29051535	MASTER CARTON BOX [BLACK]
A852	29091125-1A	PAD ASS'Y LEFT
A853	29091126-1A	PAD ASS'Y RIGHT
A854	29095012-1	SHEET 800X500
A855	260012	DAMPLON TAPE W50 BROWN
A857	282301	STAPLE 16H
A858	29100038A	POLY BAG 720X950
	29100094	POLY BAG (WARRANTY CARD)
A900		ACCESSARYBAG
	29341156	INSTRUCTION MANUAL
	29365020	WARRANTY CARD
	29100006A	POLY BAG 350X250

NOTE: [BLACK]: ONLY BLACK MODEL

ONKYO CORPORATION

International Division: No. 24 Mori Bldg., 23-5, Nishi-Shimbashi 3 chome, Minato-ku,
TOKYO 105. JAPAN Telex: 242-3551 ONKYO J Tel. 03-432-6981
ONKYO DEUTSCHLAND GmbH ELECTRONICS
Industriestrasse 18, 8034 Germering, WEST GERMANY
Telex: 41-521726 ONKY. Tel. 089-84-9320

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